Enrollment No: ____________________

CE0517/05

ज्ञानेन प्रकाशते जगत्
INDUS
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Constituent Institutes of Indus University

Semester: V **Branch:** CE

END SEMESTER EXAMINATION – November 2022

Subject Code: CE0517 **Subject Name:** Microprocessor & Interfacing
Date: 16-Nov-2022 **Time:** **3 Hrs.** 2:00 to 5:00pm
Day: Wednesday **Total Marks:** **100**

Instructions:

1. Attempt all questions
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicates full marks
4. Questions shall be drawn in accordance with the unit numbers as given below, However ***Breakup of Questions are allowed***:

Q.1 **A** Draw Internal architecture of 8086 microprocessor and explain each block of it in detail. **10**

B 1. Explain the function of the following pins of the 8086 microprocessor. **5**

- a. DT / R'
- b. RQ0 / GT0

2. Describe the minimum mode configuration of 8086 microprocessor. **5**

Q.2 **A** 1. Draw the timing diagram for minimum mode memory read cycle for 8086 microprocessor. **5**

2. Explain the following instructions of the 8086 microprocessor with an example. **5**

- a. MOVSB
- b. LEA AX, MYDATA

B 1. Write an 8086 ALP to find the smallest number in given data of 20 bytes. **5**

2. Explain the following assembler directives with an example. **5**

- c. EVEN

d. DUP

Q.3 **A** 1. Explain how the address of ISR is calculated in an 8086 microprocessor. 5

2. Define the following terms. 5
   - a. Interrupt
   - b. Polling

B Interface two chips of 16K X 8 EPROMs and two chips of 16K X 8 RAM to 8086 microprocessor. Select the starting address of EPROM suitably, but the RAM address must start at 00000H. Draw the interfacing diagram as well as find the address range for the EPROM and RAM. 10

Q.4 **A** Explain loosely coupled configuration in detail with diagram. 10

B Write a short note on multiprocessing and multiprogramming. 10

Q.5 **Any Four**

A Describe absolute and partial decoding techniques. 05

B Describe the following terms. 05

- a. ISR
- b. Interrupt Priority

C Draw the block diagram of 8254 programmable timer IC and briefly explain it. 05

D Write a short note on the 8237 DMA controller. 05

E Explain daisy chaining scheme for bus allocation. 05

F Write an 8086 ALP to find the given number is positive or negative. 05